

**Amendments to the Specification:**

Please replace paragraph [38] with the following amended paragraph:

In an exemplary embodiment, the present invention is applied to a multiple protocol label switched (MPLS) network. Based on the disclosure provided herein, however, it should be clear to a person of ordinary skill in the art that the present invention can be applied to other similar types of networks. Fig. 4 is a simplified schematic diagram illustrating a MPLS network 30. As shown in Fig. 4, the MPLS network 30 includes a number of label edge routers (LERs) 32 and 34 and a number of label switching routers (LSRs) 36. The LERs can be further classified into two categories, namely, ingress LERs 32a and 32b and egress LERs 34a and 34b. It should be understood that the LERs 32 and 34 can be replaced by any nodes which respectively perform similar functions to be described below and that the LSRs 36 can be replaced by other kinds of label switching nodes, including, L3 switch, optical crossconnect, etc. Reference numeral 32 will be used herein to refer collectively to 32a and 32b. Reference numeral 34 will be used herein to refer collectively to 34a and 34b. Reference numeral 36 will be used herein to refer collectively to 36a to 36d.